

AMSAT News Service Weekly Bulletins

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AMSAT News Service

ANS-343

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The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on <https://www.amsat.org> publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: [ans-editor \[at\] amsat.org](mailto:ans-editor@amsat.org)

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see:
<https://mailman.amsat.org/postorius/lists/ans.amsat.org/>

AMSAT-OSCAR 7 Featured in YouTube Video

AMSAT-OSCAR 7 celebrated its 50th birthday on November 15th. The YouTube channel Retro Rockets <<https://www.youtube.com/@retrorockets6465>> recently released an in-depth documentary entitled "AMSAT-OSCAR 7: The Little Satellite That Could." <<https://youtu.be/D6XYlq4u2Yg?si=cCXNv1vF7cYQ1ptZ>>" This 30 minute documentary covers the satellite's development, launch, and circumstances surrounding its rebirth.

Retro Rockets is a YouTube channel focused on covering early and forgotten spacecraft.

<https://youtu.be/D6XYlq4u2Yg?si=C4NMzw19qPizmI8u>

[ANS thanks Retro Rockets for the above information]

LignoSat ISS Deployment Information

LignoSat is a 1U-sized CubeSat whose outside structure is mainly composed of wood. In the development of wooden artificial satellites, we can produce wooden structures by using a familiar material "wood" and the usual manufacturing techniques. This will provide more people with the opportunity to develop amateur satellites at a lower cost.

This satellite performs the following missions:

1. Amateur Radio Mission LignoSat will extract call signs of the amateur radio stations from the FM packet data signals uplinked, and respond to them by using the CW downlink and their call signs to send "thank you" messages. This shows the success of the interactive satellite communication using only UHF frequencies.

2. Educational mission Another LignoSat mission is to educate students to learn about the characteristics of the satellite by acquiring its HK data such as the internal temperature, the strain of the wooden structure, and the Earth's magnetic field and calculating the rotational direction and rate of the satellite as well as observing the effect of the space environment on the wooden structure of LignoSat.

Date and time of deployment: December 9, 2024, 20:30 JST/11:30 UTC +-90min

Downlink frequency of CW beacon: 435.82MHz +-Doppler

Please track the satellite using the orbital elements (TLE) of the ISS for a while after deployment. As time passes, it will gradually fly ahead of the ISS.

The first path in Japan is expected to be around 06:30 JST on December 10th

The antenna is scheduled to be deployed 30 minutes after deployment, so if the deployment is early, it may be possible to receive the satellite during the first pass in eastern North America (around 12:20 UTC).

If the deployment is late, it may be possible to receive the satellite during the first pass in the EU (around 12:37 UTC).

A release event is scheduled to take place on the JAXA YouTube channel.

Please send your reception reports to [jh3bum\(a\)jamsat.or.jp](mailto:jh3bum(a)jamsat.or.jp) thank you.

[ANS thanks the Kyoto University LignoSat Support Team and the IARU for the above information]

HADES-ICM Offering FM Transponder to Launch Q1 2025

The HADES-ICM 1.5p PocketQube recently underwent testing at UPM/IDR University in Madrid. It will offer the amateur radio community a VHF/UHF FM voice repeater as the one of S0-121 (HADES-D) but more powerful. It is scheduled to be launched in Q1 2025 aboard the SpaceX Transporter-13 mission.

HADES-ICM 1.5 PQ satellite main mission is to act as a FM voice repeater. It can also repeat FSK derived modes like FT-4 and FT-8. As there is a small empty space available, it will be used to carry an experiment by Smart IR/Graphene Engineering Innovation Centre, GEIC University of Manchester (UK) consisting in a very low power active radiator to be tested on space conditions. The data for this experiment will be transmitted in a specific data packet in the telemetry. This experiment is the same as the one in HADES-R. This experiment will be delivered to AMSAT EA for integration and will be operated by AMSAT-EA, being all its data public and open. Engineering and manufacturing support for this mission is carried out with the help of private sector companies and universities, but AMSAT-EA will be the only operating organization. icMercury is a company also supporting the mission. It will develop ground tracking software for the satellite. Telemetry will send some FSK English formatted text messages, part of a history, to be collected as a challenge. HADES-ICM will offer licensed radio-amateur around the world the opportunity to relay FM voice and AX.25 / APRS 300 / 1200 bps communications. FSK derived transmissions and modes like FT-4 and FT-8 are also supported. As an improvement from

previous missions, maximum power is now 0.25W when battery is charged (the amplifier uses battery energy), allowing easier QSOs with handheld antennas like Arrow or Elk and less sensitive receivers. The satellite will also transmit telemetry with its status and CW messages. This all will be achieved by implementing a SDR based repeater. The FM / FSK repeater will be available all time and opened by squelch level without the need of a subtone. As payload, the satellite will carry an experiment by Smart IR/Graphene Engineering Innovation Centre, GEIC University of Manchester (UK) consisting in a very low power active radiator to be tested on space conditions. This experiment is the same as the one in HADES-R satellite with updates and improvements. Also, as a challenge made with icMercury, telemetry will send FSK English formatted text messages, part of a history, to be collected. Launch is expected for February 2025 in SpaceX Transporter-13 mission managed by the space broker Alba Orbital / D-Orbit. The main mission for the satellite is to act as a FM voice repeater although due to its SDR nature it can repeat data too. Users will have the capability of making voice contacts and use FSK derived modes like FT-4 and FT-8. This satellite is based on the hardware of HADES-D (SO-121, currently being used by HAMS worldwide for voice contacts) and the next to launch HADES-R. FM satellites are very demanded and appreciated by the HAM community because they are easy to use, they don't require of expensive transceivers and allow continental and even transatlantic contacts in some conditions. With this satellite we also put into use the amateur VHF and UHF satellite sub-bands helping to secure them for the community in the future.

[ANS thanks AMSAT-EA for the above information]

*Last Chance - 2024 Coins Are Still Available! Help Support GOLF and Fox Plus.**Join <<https://www.amsat.org/join-the-amsat-presidents-club/>> the AMSAT President's Club today!*

Gaston Bertels, ON4WF, SK

This past week, Frank Bauer KA3HDO ARISS-USA Executive Director and ARISS International Chair passed this along to the ARISS volunteers:

It is with great sorrow that we announce the passing of Gaston Bertels, ON4WF (SK). Gaston died today, December 3, 2024, from cancer. He was 97.

Gaston was recently given the title "Elder Statesman" by the ARISS International team. This honor was given because of his monumental role in the formation and operation of the ARISS team. He wrote our ARISS Terms of Reference and participated in numerous discussions, over the years, on how to run a cohesive, results-oriented international team. His in-depth knowledge of amateur radio rules and regulations, particularly his knowledge of licensing and 3rd party traffic, enabled ARISS to develop an operations plan that could support human spaceflight amateur radio operations across the world. His knowledge of radio telecommunications was respected in Europe and elsewhere, allowing him to give presentations on amateur radio in space to members of the European Parliament. His personality radiated an inviting aura to all. He has been a friend, a leader, and an inspiration to all of us.

Gaston began his journey in human spaceflight amateur radio by guiding a group of engaging students in a radio contact at a Belgian Space Camp during the 1992 STS-45 Space Shuttle mission. This contact was with Belgium's first Astronaut, Dirk Frimout ON1AFD. Gaston coordinated the radio contact preparations and operated the radio station during the contact. Gaston was instrumental in convincing ESA to install L/S band antennas on the Columbus module, prior to launch, to support future

operations in Columbus. He worked with Professor Pawel Kabacik from the Wroclaw University to design, build and certify the antennas and led a fundraising campaign to pay for the development, test and certification. With HamTV as the first hardware "customer" of these antennas, Gaston led the HTT, the HamTV Technical Team meetings to prepare the HamTV ground stations for operations and to coordinate the on-board HamTV operations. The L/S antennas have also been employed for two flight experiments: MarconISSta with TU Berlin and the upcoming NAVCOM experiment for ASI/Qascom.

Gaston will be sorely missed. But the light of his legacy shines in all of us that he has touched—inside and outside of ARISS.

Ad Astra Gaston! (To the Stars, Gaston!)

[ANS thanks Frank Bauer, KA3HD0, ARISS International Chair, for the above information]

*Need new satellite antennas? Purchase an M2 LEO-Pack from the **AMSAT Store! <<https://amsat.org/product-category/hardware/>>**When you purchase through **AMSAT, a portion of the proceeds goes towards **Keeping Amateur Radio in Space.*

ARISS News

Amateurs and others around the world may listen in on contacts between amateurs operating in schools and allowing students to interact with astronauts and cosmonauts aboard the International Space Station. The downlink frequency on which to listen is 145.800 MHz worldwide.

SWSU, Kursk, Russia, direct via TBD

The ISS callsign is presently scheduled to be RS0ISS
The scheduled crewmember is Alexander Gorbunov
The ARISS mentor is RV3DR

Contact is go for Mon 2024-12-09 09:30 UTC

Chrześcijańska Szkoła Podstawowa Daniel, Warszawa, Poland, direct via SP5POT

The ISS callsign is presently scheduled to be OR4ISS
The scheduled crewmember is Don Pettit KD5MDT
The ARISS mentor is SP3QFE

Contact is go for: Mon 2024-12-09 11:03:48 UTC 78 deg

Watch for Livestreams at <https://www.facebook.com/share/45Mq4px6R9Fnt6tK/>
and <https://www.youtube.com/live/CDMgY2x5Kwo>

Scuola Secondaria di I Grado "F.Anzani", Cantù, Italy, telebridge via VK4KHZ

The ISS callsign is presently scheduled to be NA1SS
The scheduled crewmember is Sunita Williams KD5PLB
The ARISS mentor is IZ2G0J

Contact is go for: Tue 2024-12-10 09:13:10 UTC 35 deg via VK4KHZ

Watch for Livestream at
<https://www.youtube.com/live/jU7bSfGfwfI?si=0TL5NoqVi0GKZgtI>

*Hillsboro Charter Academy, Purcellville, VA, direct via KQ4MAM *

The ISS callsign is presently scheduled to be NA1SS
The scheduled crewmember is Sunita Williams KD5PLB
The ARISS mentor is AA6TB

Contact is go for: Wed 2024-12-11 18:51:41 UTC 45 deg

Many times a school may make a last minute decision to do a Livestream or run into a last minute glitch requiring a change of the URL but we at ARISS may not get the URL in time for publication. You can always check <https://live.ariss.org/> to see if a school is Livestreaming.

As always, if there is an EVA, a docking, or an undocking; the ARISS radios are turned off as part of the safety protocol.

The crossband repeater continues to be active (145.990 MHz up {PL 67} & 437.800 MHz down), If any crewmember is so inclined, all they have to do is pick up the microphone, raise the volume up, and talk on the crossband repeater. So give a listen, you just never know.

Note, all times are approximate. It is recommended that you do your own orbital prediction or start listening about 10 minutes before the listed time.

The latest information on the operation mode can be found at <https://www.ariss.org/current-status-of-iss-stations.html>

The latest list of frequencies in use can be found at <https://www.ariss.org/contact-the-iss.html>

[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors for the above information]

Upcoming Satellite Operations

A growing number of satellite rovers are currently engaged in sharing their grid square activations on <https://hams.at>. By visiting the website, you gain easy access to comprehensive information about the operators responsible for activating specific grid squares. Additionally, you have the ability to assess the match score between yourself and a particular rover for a given pass, while also being able to identify the upcoming satellite passes that are accessible from your location.

AD0HJ is planning his last 2024 rove to the Missouri Ozarks area between December 5th-8th. Mitch has never been to that area so he is looking to do some sightseeing and activate eight new satellite grid squares. EM26-EM28, EM36-EM39, and EN30. He will be working RS-44 passes in the evenings. See <https://hams.at> for details.

EA4NF is planning to activate IN87 and IN97 in Brittany, France as F50CE on December 12th-14th. Pass information will be posted at <https://hams.at/>.
<<https://hams.at/>>

[ANS thanks Ian Parsons, K5ZM, AMSAT Rover Page Manager, for the above information]

* Want to fly the colors on your own grid expedition?*

Get an AMSAT car flag and other neat stuff from our Zazzle store
<https://www.zazzle.com/store/amsat_gear>!
25% of the purchase price of each product goes towards Keeping Amateur Radio in Space

AMSAT Ambassador Activities

AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

AMSAT Ambassador Clint Bradford, K6LCS, says,

"Think a 75-minute presentation on "working the easy satellites" would be appropriate for your club or event? Let me know by emailing me at k6lcsclint (at) gmail (dot) com or calling me at 909-999-SATS (7287)!"

Clint has NEVER given the exact same show twice: EACH of the 150+ presentations so far has been customized/tailored to their audiences.

Scheduled Events

*Central Kentucky Amateur Radio Society**December 19, 2024*

CKARS Monthly Meeting
558 S Keeneland Dr.
Richmond, KY 40475
<https://www.ckars.org/home>
AI4SR

Yuma HAMCON
February 20-22, 2025

Yuma, AZ
N1UW

[ANS thanks Bo Lowrey, W4FCL, Director – AMSAT Ambassador Program, for the above information]

Satellite Shorts from All Over

+ The ARRL has released LoTW configuration file version 11.30, adding support for QSOs made via A0-123. (ANS thanks the ARRL for this information)

+ A OneDrive
<<https://onedrive.live.com/?redeem=aHR0cHM6Ly8xZHJ2Lm1zL2YvYy9hN2MzMjI2ZjNmMjY3NThkL0V1NmNaLXpxUjIwT2xsNTRGeUZtZ1g0QmNzTzE0ZW4dXlRZON3NnkwcKJMd0E&id=A7C3226F3F26758D%21sec679cee47ea4eda965e78172166817e&cid=A7C3226F3F26758D>>
containing all of the tools for A0-123 (ASRTU-1), include LiveCD, Windows decoding software, image calibration tool, offline image decoder, etc, has been made available. (ANS thanks BG2BHC for this information)

+ The Jovian-1 mission, with an AMSAT-UK U/V FM payload, has taken a giant leap forward as the satellite platform was delivered by GOMSpace on November 27th. (ANS thanks G0MRF for this information)

+ The Artemis 2 mission, scheduled to carry astronauts around the moon, has been delayed to early 2026 and the Artemis 3 mission, the first moon landing of the Artemis program has been delayed to 2027. (ANS thanks NASA for this information)

+ President-elect Donald Trump has announced his plan to nominate Jared Isaacman as the next NASA Administrator. Isaacman has flown in space twice, as a private astronaut aboard the SpaceX Inspiration4 mission and on board the Polaris Dawn mission this past September, where he became the first private citizen to perform a space walk.

Join AMSAT today at <https://launch.amsat.org/>

In addition to regular membership, AMSAT offers membership to:

- Societies (a recognized group, clubs or organization).
- Primary and secondary school students are eligible for membership at one-half the standard yearly rate.
- Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status.
- Memberships are available for annual and lifetime terms.

Contact info [at] amsat.org for additional membership information.

73 and remember to help Keep Amateur Radio in Space!

This week's ANS Editor,

Paul Stoetzer, N8HM

n8hm [at] arrl.net <<http://arrl.net>>

ANS is a service of AMSAT, the Radio Amateur Satellite Corporation, 712 H Street NE, Suite 1653, Washington, DC 20002